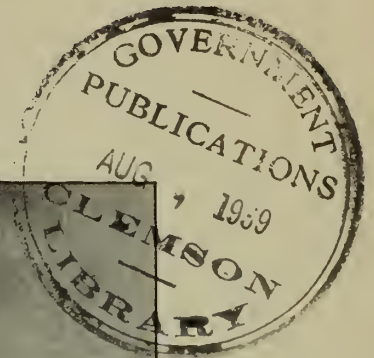


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THE REGIONAL REVIEW

Clemson University



NATIONAL PARK SERVICE
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AUGUST 1939

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THE COVER

The air brush drawing by Samuel O. Smart shows the White Ibis, known also as the White Curlew, the Spanish Curlew and the Stone Curlew, which is found in large numbers in the Everglades (see pp. 3-10). The bird breeds in North and South America from South Carolina, Louisiana, Texas and Lower California to the West Indies, Venezuela and Peru. It prefers crayfish for food, lives in great rookeries established at ponds and sloughs, flies in ordered ranks, and is easily recognizable by its long, downward curved beak.

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THE SHARK RIVER WILDERNESS OF THE EVERGLADES

By Daniel B. Beard,
Wildlife Division
Washington

Editor's Note: The proposed Everglades National Park in southern Florida will be the largest Service area east of the Rockies. It consists of 1,454,092 acres and is exceeded in size only by Katmai National Monument in Alaska, Yellowstone and Mt. McKinley National Parks, and the Boulder Dam National Recreational Area. The western coast of the Everglades seldom is visited by anyone because it can be approached only by water. The writer of the accompanying article describes a trip to a remote section of the proposed park in order that Service employees may be better acquainted with the general character of that unique project.]

When John James Audubon saw Florida in the 1830's his first impressions were not the type that a Chamber of Commerce might pounce upon as being useful utterances of a visiting celebrity. He wrote: "Here I am in Florida, thought I, a country that received its name from the odours wafted from the orange groves . . . and which from my childhood I have consecrated in my imagination as a garden of the United States. A garden, where all that is not mud, mud, mud, is sand, sand, sand; where the fruit is so sour that it is not eatable and where in place of singing birds and golden fishes, you have a species of ibis that you cannot get when you have shot it, and alligators, snakes and scorpions."

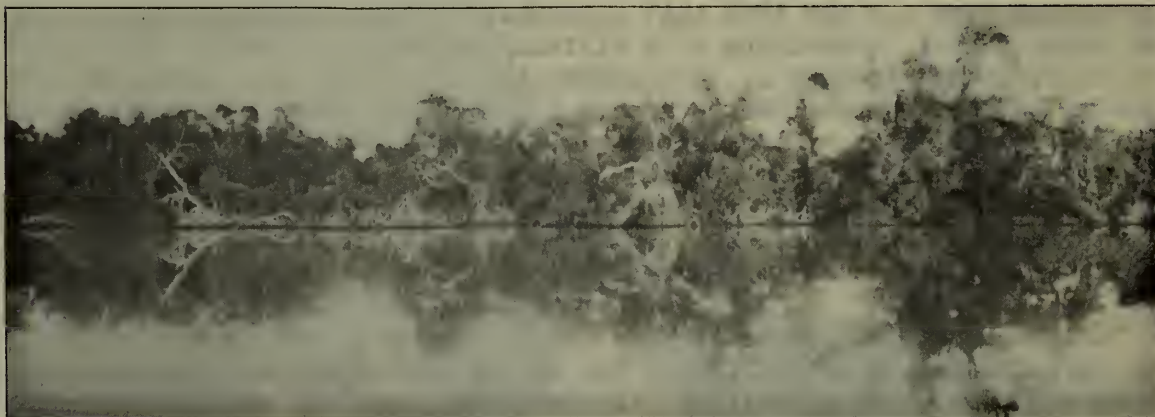
Anyone who has penetrated the remote areas of the state is likely to agree with Audubon at first. The second impression is more favorable however, when the star dust of tourist propaganda is rudely cast aside and familiarity with the country reorients one's sense of values. Again referring to Audubon, we find that he too gets into a more tranquil mood after becoming acclimated. Speaking of a section of the proposed Everglades National Park, he says: "The flocks of birds that covered the shelly beaches, and those hovering overhead, so astonished us that we could not for awhile open our eyes. . . . Rose-coloured Curlews stalked gracefully beneath the mangroves. Purple herons rose at almost every step we took, and each cactus supported the nest of a White Ibis."

Many of us got our first impression of the Everglades, I am sure, from a picture someone once made called "The Mysterious Everglades," and which someone else put into a geography book. It showed a giant tree festooned with lianas, standing on the bank of a river. Behind the tree grew a dense, tropical jungle with parrots flying through it. In the river was a miscellaneous assortment of herons, ibises, egrets, alligators, turtles, and what not, while off in the background, the artist threw in a dozen or so flamingos for good measure. The ludicrous picture made an impression on many little boys and girls who never realized that Everglades meant exactly that --- ever glades. Childhood ideas often stick with us, so it is with surprise and some dismay that many peo-

ple get their first look at the Everglades prairies stretching off many dreary miles on both sides of the Tamiami Trail.

The Shark River section of the southwestern part of the proposed Everglades National Park is a remote area, difficult of access, and embodies the true wilderness of the southern Everglades. The easiest way to describe the country is to recount a trip there in an accepted travelogue manner.

Soon after midnight, we left the stilt houses of commercial fishermen clustered behind Pavilion Key in the Ten Thousand Islands region. A fresh southerly breeze raised gentle swells on the Gulf of Mexico as we steered a southeast course in the deep water along the edge of the shoals. All the rest of the night and until well into the morning, the shoreline of the western coast of the proposed Everglades National Park could be discerned off to port. It was just a thin streak separating sky from Gulf with some Australian pines that had been planted on Wood Key as the only landmark to identify our position. How the pilot knew when to swing toward shore is a mystery that remains to be solved.



GIANT MANGROVE FOREST, UPPER SHARK RIVER

As the boat approached land we saw that the mangrove forest which borders so much of the Gulf was exceptionally tall. The vegetation is not usually more than 20 or 30 feet high; but along the southwest coast from the vicinity of the Broad River south to the Cape Sable beaches is an area known as the giant mangrove forest. Like a solid wall growing directly out of the water, the trees (buttonwood, black mangrove and red mangrove) reach a height of approximately 75 feet. In a land of generally scrubby vegetation and open prairies it is something to marvel at. Botanists have asserted that it is the tallest forest of its type in the world.

Our pilot steered toward the mouth of Harney River that appeared as two openings. The chart showed a small island or key in the middle of the mouth with a number of shoal areas on which a boat might run aground or have her bottom scraped by coon oyster beds. With little possibility of another vessel's coming along in less than a week, if then, the idea of getting stuck in a place where one could not travel except by boat is

a rather serious consideration. Fortunately, after careful sounding with the lead and frantic signalling to the pilot from one of us who sat astride the bow, we emerged into the calm, deep waters of the Harney.

The giant mangrove forest came to the water's edge on both banks. No parrots, alligators or flamingos in the background, in fact there was not a sound of life to break the sepulchral silence of the forest. The "land," if it can be called such, was oozy marl and the entire area is inundated during spring tides. No dead trees so dear to the hearts of all wildlife technicians were on the forest floor. Do not ask me why. Perhaps these mangroves just go on living forever. To say that the mangrove forest is beautiful is to tell a bald falsehood; rather, let us call it impressive. I doubt if anyone has looked or will look into that gloomy forest without saying to himself: "Wouldn't it be terrible to have to wade in there?"

PROPOSED PARK TWICE
AS LARGE AS RHODE ISLAND

The proposed Everglades National Park, authorized by Congress on May 30, 1934, includes an area of 2,272 square miles, nearly double the domain of the state of Rhode Island. The park will border the Gulf of Mexico from the Tamiami Trail on the north to Cape Sable, a point 350 miles farther south than Cairo, Egypt. The tropical glades, long noted for their great wealth of flora and fauna, and the Big Bend of Texas and Isle Royale of Michigan, constitute the three national park projects.

It was with a distinct feeling of relief that we spotted two tiny black dots wheeling above the trees far off to the east. After getting them into the range of our binoculars, we found them to be short-tailed hawks, one of the rarest and least known species of birds in America. To the casual observer, the short-tails might appear similar to any of the red-shouldered hawks so common in Florida, except perhaps a little darker; but to the ornithologist the species is well worth coming all the way from the North to see. Southern Florida marks the northern limit of the species' range and, for all we know, short-tailed hawks are just as well established in the Everglades region now as in primitive times.

The mangroves along the shorelines became smaller as we progressed upstream and, differing from those at the coast, appeared to have more aerial roots dropping to the water from their branches. A flock of little blue herons took to the air as we rounded a bend of the river, the adults slaty blue and the immature birds almost pure white. They went squawking off in the distance flopping this way and that in none too graceful flight. Belted kingfishers swooped across the water uttering their familiar stuttering call just as they do along cool streams in far away New England on summer days. Now and then a coot rushed for cover beneath the mangrove roots.

I have often wondered how far away one can see a flock of white ibises. It must be many miles. We were attracted by a flash of minute, white dots like the signal of a heliograph. It is a familiar sight in the Everglades country caused by the sun's shining upon the backs and wings of a flock of white ibises as they circle about in the ascending warm air during the heat of the day. Closer at hand it is possible to

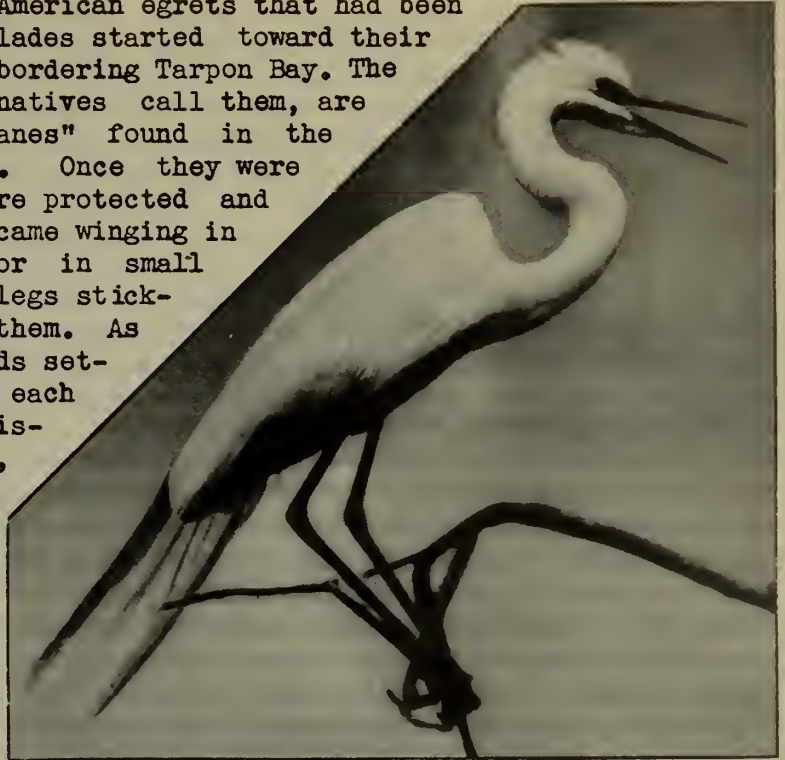
see the alternate light and shadow of the birds, although at a distance only the white flashes are visible.

We stood on the roof of the pilot's house to get a better view. From that elevated position it was possible to see over the tops of the mangroves fringing the shorelines to the broad flat stretches of wet prairies beyond. The general term Everglades usually is applied to most of southern Florida, but in its stricter sense it means the great prairie region from Lake Okeechobee southward through the proposed national park. In other words, the mangrove forest is not really a part of the Everglades. Lake Okeechobee formerly overflowed the Everglades each year and this great sheet of water, augmented by rains in the Glades themselves, kept them wet. Since drainage canals have been dug, the water has been diverted, the 'Glades dry out in winter, fires start, and both wildlife and its environment suffer. We looked out over these limitless Everglades -- vast stretches of grasses and sedges interrupted now and then by a string of mangroves following a river such as we were moving up, or by patches of vegetation known as hammocks. If the water level rose one foot it would have covered the land to a depth of at least eight inches as far as we could see. No wonder two "conchs" (natives) of the Florida Keys made us stop our auto once on the highest bridge of the Overseas Parkway so that they could get out and look around. It was the highest point one of them had ever been on. The other had visited the lookout atop the Dade County Office building in Miami. The bridge, incidentally, is about as high above the water as an ordinary fire tower is from the ground.

Tarpon Bay was reached early in the afternoon. It is little more than a widening of the river, although both the Shark and the Harney drain from it. Geologists have ventured the opinion that during a late Pleistocene subsidence the entire west coast of the proposed park dropped a bit, leaving the Ten Thousand Islands and a string of inland waterways of which Tarpon Bay is but one. I have never met anyone who has negotiated the waterways from Tarpon Bay northwestward, paralleling the coast through Rogers River Bay, Big Lostmans Bay, Alligator Bay, and so on. One man tried it and I understand the Coast Guard found him by airplane.

During the late nineteenth century, great bird rookeries in these inland lakes were almost wiped out by plume or aigrette hunters. It was fashionable at that time for ladies to wear on their hats the nuptial plumes of egrets and this caused a slaughter of the birds during the breeding season. We anchored off a little island upon which grew a single cabbage palm. Incongruously, there was a big white sign board admonishing all to protect the birds and bearing the name: "The National Association of Audubon Societies, 1775 Broadway, New York City." It reminded us of other words engraved on a bronze plaque placed on the very tip of Cape Sable which is the southernmost point on the United States mainland. It reads: "Guy M. Bradley, 1870-1905, Faithful unto Deaths Game Warden of Monroe County he gave his Life for the Cause to which he was Pledged." It also is signed by the Audubon Society which was seeking at that time to stop the terrible destruction of egrets, spoonbills and other birds that were being killed for their plumes.

Toward evening the American egrets that had been feeding back in the 'Glades started toward their roosts in the mangroves bordering Tarpon Bay. The "long whites," as the natives call them, are the familiar "white cranes" found in the North during the summer. Once they were very rare; now they are protected and seen more often. They came winging in from the east singly or in small flocks, their long black legs sticking out straight behind them. As more and more of the birds settled in the mangroves, each just out of pecking distance of its neighbor, they looked for all the world like white ornaments on a long line of Christmas trees. At least 2,000 of the birds were within sight and others could be seen coming to trees around a bend of the bay.



AMERICAN EGRET

The sun had just set when a whistle of wings overhead drew our attention to a flock of white ibises as they veered away from the boat. They were flying in characteristic formation with a cluster of birds in the front and a long string behind like the tail of a comet. The birds making up the "tail" acted as though they were tied together. When one dipped, all the rest dipped. About 100 birds made up the forward group and around 300 the tail. In the distance other flocks could be seen heading for a mutual rendezvous near the coast. A single wood ibis landed with an ungainly flop on a dead tree near our boat. Seeing us, it flew quickly away, calling out in a guttural voice while its heavy wings bump-bump-bumped much like the beat of a small tom tom.

One of the charms of the wilderness is the sensation it gives one of being transported into the past to a bit of America as it was before the white man came. In the Everglades, it is somewhat different. One feels much like Mark Twain's Connecticut Yankee must have felt when he found himself suddenly in the midst of King Arthur's court. The land that seems to have just half emerged from the sea to form a continent, the birds off somewhere in the distance squawking like their antediluvian ancestors, a ripple in the water that might be an alligator or might be a manatee, the incessant sound of batrachians, the strange silhouettes of multiple-rooted mangroves, the harsh rattle of palm fronds, all combine to give one the peculiar feeling that he is somehow back in the geologic ages -- not before the white man came, but before there was any such thing as man. At such times it is a good idea to go below, close the screen over the hatch, and start a game of poker.

Early in the morning we took the skiff with an outboard motor and started toward the headwaters of the Shark River. Winding back and forth through the innumerable waterways, it was with some surprise that we came upon a house boat tied to the bank. Some banana trees grew nearby, indicating an old Seminole camp that probably had been situated on a shell mound. A long line of raccoon skins were drying on stretchers near the bananas. The occupant of the boat, who looked like the picture of Blackbeard the pirate, came to the door and waved to us as nonchalantly as if we were in the fiftieth boat that had passed that morning. He was barefooted, of course, and wore his dungarees rolled up to his knees. A hairy chest, a bearded chin, and a quid of tobacco tucked in one cheek, made up the principal features of our "buccaneer." Some white feathers floating about in the water bore evidence of what he had eaten for supper the night before.

Birds were abundant. There seemed to be a continual flap of wings as Louisiana herons, little blue herons, Ward's herons, blue-winged teal, Florida ducks, American egrets, white ibises, wood ibises, snowy egrets, black-crowned night herons, green herons, coots and other birds took to the air. A school of mullet went through a shoal area, jumping out of the water in their haste. Sometimes they jump right into one's boat (I have witnesses). We searched in vain for an Everglades kite, a bird whose sole food is a species of large snail. If it still is to be found within the borders of the proposed park, it must be at the headwaters of some of those rivers along the west coast, for when the 'Glades were drained and the snails became scarce, the kite disappeared also. Shooting probably helped to extirpate the species from most of lower Florida.

Vegetation along the banks of the little stream that we were following had changed to giant ferns, buttonwood and coco plum; occasionally live oaks, cabbage palms and custard apples broke the monotony. Grasses and sedges about shoulder high gradually replaced the larger growth. The water became shallower and weeds were constantly clogging the propeller, so we started back. One of the party threw out a line with a spinner attached and promptly brought aboard a nice large-mouth bass. "Fishermen's Paradise" is an overworked term. From the number of such places it would appear that the average fisherman need never fear descent to the nether regions. Hence, even though severely tempted, we shall not use the term here. Bass and snook appeared to be ready to grab our spinners before they were thrown overboard. Possibly nobody had ever fished there before, but from all evidences the supply should hold well with fairly heavy fishing. They were not little fish either.

Taking a different route back, we passed the location of the former Shark River rookery. Not a single bird has nested there since about 1935. Ornithologists had estimated previously that there were hundreds of thousand of birds -- some even said a million -- with most of them white ibises. Now they have gone and nobody knows why. It is claimed that the drying of the Everglades through drainage, with a consequent reduction in the numbers of fresh water crayfish and other organisms,

caused the birds to move out. One cannot help speculating on how many tons of food must have been required to keep so many birds alive day by day. White ibises are known to move their rookeries occasionally after the trees die from the effects of so many birds. At any rate, the birds are gone and, for a time at least, nobody can have the superlative thrill of seeing nearly a million of them nesting in one mammoth rookery in the southern Everglades region.

The usual number of small alligators was noted as well as two big ones -- both in a hurry to get out of our way. A few "gator crawls" were seen along the banks where the big saurians habitually move from one waterway to another. Our friend the pirate may have had something to do with the dearth of the animals. Fortunately, the alligator is a prolific species and it does not take much imagination to visualize what will happen when the area receives National Park Service protection. Otter sign was not uncommon. An adult with two young, seen at a distance, at first resembled just three more turtles.

Upon returning to the boat, we found that we had missed seeing a manatee. Those who stayed aboard while we went exploring said that they had watched an old sea cow feeding in Tarpon Bay. The manatee or sea cow is the homeliest, laziest and most innocuous mammal in the world. It is built along the general lines of a fat old seal and lives a sedentary life at peace with its neighbors. Perhaps its only enemy besides man is a shark, and perhaps it is not. It grazes just like a pasture cow on the abundant manatee and turtle grass that grows in the water. Manatees sometimes travel in herds, sometimes alone. They are seldom seen unless washed ashore because they feed under water and push their wrinkled snouts above the surface only now and then for a breath of air. They are becoming very rare and unless the Everglades National Park is established soon the species may be lost from the United States, although the state of Florida already has enacted stringent laws against killing manatees.

It was decided to try to make the harbor near Cape Sable by nightfall. Accordingly, we started down the Shark River soon after lunch. In general the stream resembled the one up which we had come, for there was little life in the water or along the shores. A small flock of white pelicans flew over, headed, we supposed, for the Cape Sable area. A snake bird, or anhinga, or water turkey if you will, performed for us. It dropped from its perch on a small mangrove and disappeared beneath the water. Then its head and long, snake-like neck reappeared and the bird swam out of sight. Two swallow-tailed kites flapped across an open glade like a pair of huge black and white butterflies. About 25 pairs now nest in the proposed park. Once the bird was found as far north as Minnesota, but it is seldom seen today outside of Florida, especially the Everglades region. The name of the species is taken from its long forked tail that moves this way and that during flight. Some consider it the most beautiful bird in North America; despite the fact that we hold out for the white ibis, we will not say that they are wrong. It is a sad commendary on our civilization when we realize that swallow-tailed

kites have been shot out simply because they are easy targets and bear a remote resemblance to hawks that might eat chickens.

The labyrinth at the mouth of the Shark River is a maze of islands that could be charted only from aerial photographs. Long, long ago Ponce de Leon saw them and tried, perhaps, to thread his way through. The water is quite deep between them, but they all look alike with giant mangroves growing over their entire surface. Our estimation of our pilot's skill went to a new height when he successfully navigated through to the Little Shark River. Dead trees began to show where the 1935 hurricane had swept. Some looked as though they had been pruned and others were dead, leaves, bark and branches having been blown away. The farther south we progressed, the worse was the hurricane damage until scarcely a tree was to be found alive. In some places one could look for a quarter of a mile through the forest and not see a living thing.

A flock of brown pelicans and some royal terns were near a boat at the mouth of the Little Shark River. The boat, appropriately enough, was that of a shark fisherman who was after shark skins for leather, shark liver for oil, and shark teeth for some other purpose. We passed the anchored boat and emerged into the milky blue waters of the Gulf.



SAWGRASS PRAIRIES AND CABBAGE PALM HAMMOCKS IN THE EVERGLADES

CAPE HATTERAS LIGHTHOUSESentinel of the Atlantic Graveyard

By Frank E. Whitehouse,
Associate Engineer,
Richmond, Virginia



HIS YEAR marks the 150th anniversary of the establishment of the National Lighthouse Foundation as an agency of the federal government and recalls the early history of the lighthouse. Actually, if the colonial period is taken into account, nearly 225 years have elapsed since the first lighthouse keeper took up his duties in what now is the United States. Since 1789, when 11 lighthouses already were in service, a continuous nightly duty has been performed all along the country's thousands of miles of coast and inland waterways where the warning lights must be kept burning. "Lights out" is a command never given in a lighthouse until the sun heralds the new day.

Like ships, the beacons and shore warnings have developed slowly throughout the centuries. It is another story of evolution. With the first step from oars to sails, ships ventured farther from home harbors -- although only for short voyages at first -- and some sort of guiding sign was needed to

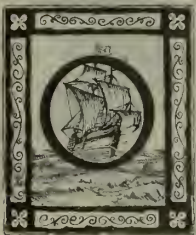


bring them safely back after night had overtaken them. Perhaps it was to direct returning fishermen, who during most of the day and into the night had spread their nets or cast their bone-tipped spears for food, that the women of the tribes of long ago built guiding bonfires at the beach or on a nearby hill. When we dip into the past to the days when sailors had to grope their way along dangerous dark shores with but a single bonfire or beacon to lead them the service performed by warning lights appears as one of the greatest maritime works ever undertaken.

More travel by water required more lights or fires on shore. As time went on and water-borne traffic became more common, towers were built along the coasts in order that the fires at their tops might be seen farther out at sea. One of the earliest written references concerning a lighthouse is that of a Greek poet of about 600 B. C., who mentioned a tower at Sigeum, near the site of ancient Troy. That fire tower or pharos was one of the first to be regularly maintained. The towers increased in number as their need became more apparent. In developing, they grew more and more similar in external appearance and the resemblance has continued to those that we know today.

One of the most famous lighthouses of all time was that of Pharos, at Alexandria, Egypt, completed in 247 B. C. The tower was more than 400 feet high, it is recorded, and the gleam of the fire at its top could be seen for 40 miles at sea. Modern lighthouse engineers do not agree with the latter claim, but are frankly skeptical that the light could have been visible for 20 miles. As for the height of the tower, we have the word of the ancients for that. In any case, it must have been an out-of-the-ordinary structure for it is included among the Seven Wonders of the Ancient World.

Most Americans are aware in a vague sort of way that lighthouses are there at the entrance to harbors and at intervals along the coast, but the existence of these important structures now is taken for granted, like the sun, moon and stars. They are always there. Yet, patient study, long labor and much money were required to establish the hundreds of lighthouses in service today in the United States. Some of them have served for a long, long time; others are as new as next year's automobile.



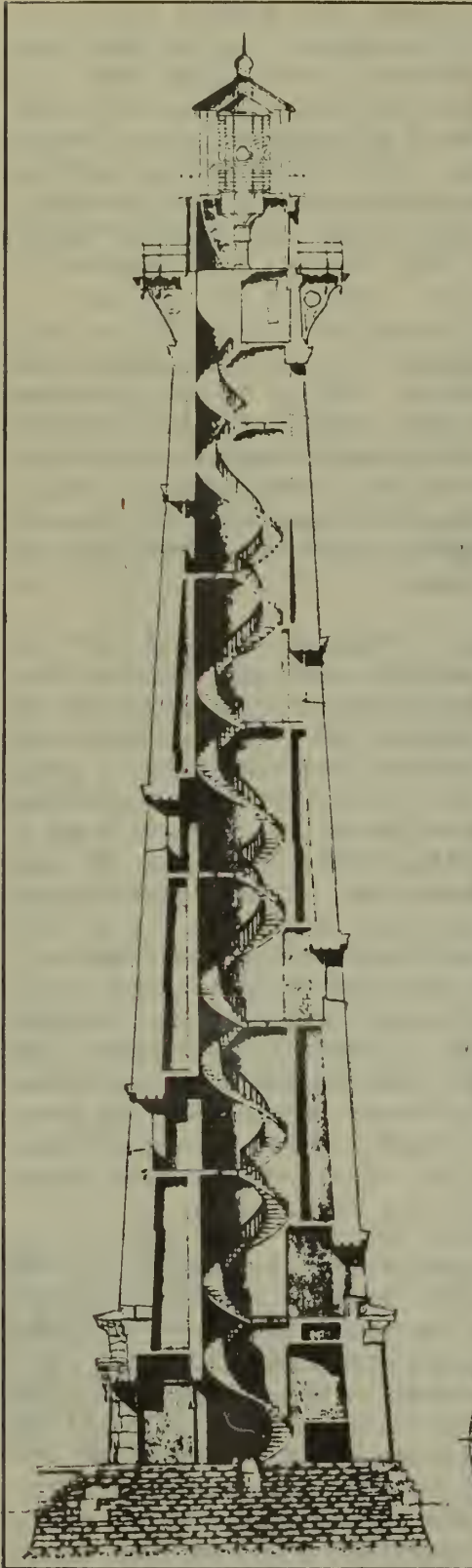
ONE OF THE BEST known of these coastal guardians is a faithful sentinel of the Atlantic known in official language as Cape Hatteras Lighthouse. It ranks high in interest, but not as a marker for a busy harbor or as a tower standing picturesquely on a treacherous rockbound coast. Many miles from any commercially important port, it is situated on a sandy strip of land off the North Carolina coast, within the authorized boundaries of the proposed Cape Hatteras National Seashore, where one may watch the sun rise and set in the Atlantic. It commands special attention because it is today the highest brick lighthouse in the United States and because, for 66 years, it marked Diamond Shoals, one of the most hazardous points of the seaboard. Countless shipwrecks on these shoals have gained for them the aptly phrased designation, "the Graveyard of the Atlantic."

The dangers along this section of the coast are greatly increased because Hatteras is a control point in setting courses for seaboard and West Indian shipping. The shortest route for most vessels lies near the Cape, but the presence of Diamond Shoals and the Outer Shoals requires ships to keep almost 20 miles out. Northbound shipping finds a favorable current by staying in the Gulf Stream, while southbound traffic goes between the Stream and the coast where there is a southerly current. Many ships pass as close to the Cape as they can, but during storms there is the danger of being driven onto the shoals and eventually wrecked on shore.

The first lighthouse built at Cape Hatteras had been recommended by Alexander Hamilton in 1794 and was completed in 1798. It was a brown sandstone tower, octagonal in shape and 90 feet high, which soon proved to be too low and too poorly lighted to serve satisfactorily. Consequently, between 1867 and 1870 Congress authorized appropriations totaling approximately \$67,000 for the construction of a new tower of greater height which was erected about 600 feet north of the old tower and, at that time, more than a mile from high tide mark.

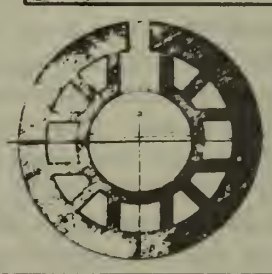
Although complete official information relative to the date on which work actually started and how many workers were employed is not available, it is known that a roadway one and one-half miles long had to be constructed to transport building materials to the site, and that the usual quarters for the men were provided. During 1869 the work progressed rapidly and by the end of April, 1870, the structure had reached a height of 103 feet. An isolated tower more than 190 feet high on a sandy shore requires a very stable foundation, especially when 80- or 90-mile winds are possibilities to be considered. The construction drawings which are available shed no light on the subject, but it was learned from a man, who as a boy had been employed on the construction, that the foundation was started by closely driving 50-foot pine piles over the entire area to be occupied by the tower. Then followed rubble masonry made with granite blocks starting at a point six feet below the ground. If this information is correct, all the foundation timbers are below water level at all times and therefore well protected and preserved. But whatever the foundation construction, there is now no evident signs of failure in the granite or brick masonry work that would indicate conclusively that unequal settlement has taken place.

The exterior of the lighthouse and a view of the lowlying coast are seen at the beginning of this article. (An idea of the great size of the structure may be gained by comparing it with the figure of a man in the left foreground). The base is octagonal and there is one entrance door on the side opposite from that shown in the photograph. The upper part is a frustrum of a cone. The interior is a round shaft 11 feet 6 inches in diameter from top to bottom in which is found an ingeniously designed spiral stairway leading to the lantern at the top. (See illustration on next page). Landings are placed on alternate sides and at each one of these is a window which provides ample natural light for the flights of stairs. One must climb nine flights of this spiral to reach the lantern room, or watchtower level, and one small ladder from the lantern room to the lantern gallery.



It will be noticed by studying the horizontal section of the tower, which is reproduced at the bottom of this page, that the enclosing wall is hollow throughout most of its height. Radial walls of brick masonry tie the inner and outer walls together, indicating that the design was worked out carefully to balance safely the weight of the structure against the overturning power of the winds, and at the same time to provide economical construction.

The ascent of the tower and an examination of the intricate details of the lens and prism assembly, the rotating mechanism, the light mounting and related features -- all constructed by Henry Le Paute in Paris, France -- are educational experiences long to be remembered. The lens and prism assembly is shown in the top photograph on the opposite page. A large 24-sided bronze frame houses the individually ground bull's-eyes and prisms and revolves around the stationary light through operation of a governor-controlled train of gears energized by weights that travel vertically in the center of the tower (See middle and bottom photographs). Each day the weights must be cranked to the top by hand. The speed of rotation is governed so that at a distance in any direction at night one can observe a flash every sixth second. That occurs every time one of the bull's-eyes passes between the observer and the light. The duration of the flash is 1.4 seconds; the eclipse 4.6 seconds. It should be noted that the light burns steadily and does not flash on and off as most people suppose.



Vertical and Horizontal Sections
of the Cape Hatteras Lighthouse.
(From the original drawings)

The rotating lens frame is protected from the elements by a heavy plate glass enclosure which is sufficiently large to allow walking space between it and the frame. A conical sheet copper roof covers the entire assembly. During the day the light proper

must be protected by a curtain which is drawn around the outer surface of the lens frame and in addition by curtains on the inside of the outer enclosure. This precaution is taken to safeguard the lamp unit against the destructive heat of sun light concentrated by the lens as though through many powerful magnifying glasses.

The light has undergone several changes since it first was put in service December 16, 1870. The earliest lamp is said to have burned whale oil, the second kerosene; next was a mantle lamp, and finally one using electricity. Oil was stored in large tanks fitted into the arches of the lower part of the tower and electricity later was provided by a generating plant and storage batteries placed in a small building close to the base of the shaft.

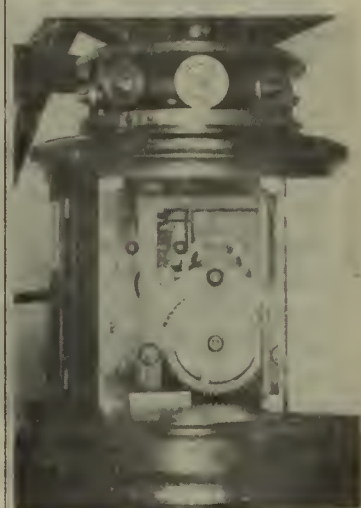
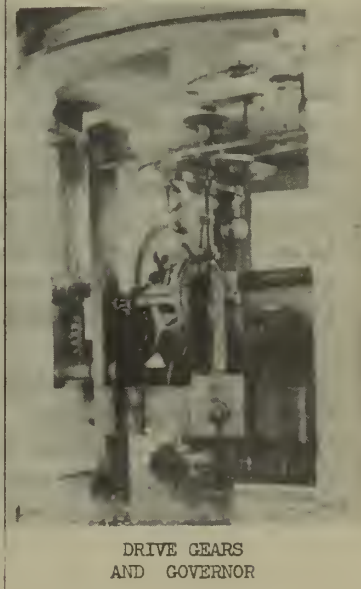
At one time, possibly between 1870 and 1873, the top half of the lighthouse was painted red and the lower half white. In 1873 the official marking was established as alternate black and white spiral bands. There are two black bands and two white bands, each making one and a half revolutions about the tower. Every lighthouse has an officially designated marking, unlike that of any other unit of the system, just as it has its specific type of flash.

Threatened by the encroachment of the waves, which had cut away more than a mile of the shore and advanced almost to the base of the tower, Cape Hatteras Lighthouse flashed its last warning on May 15, 1936, and was abandoned by the United States Lighthouse Service for active night duty. The guardianship of the watery graveyard was taken over by a modern steel-frame tower erected a mile farther inland where its 80,000 candle power electric lamp projects a beam from an elevation of 166 feet above sea level. The new light is visible for 19 nautical miles. Nevertheless, during the day the familiar black and white spiral markings of the old brick tower still serve coastwise navigators in determining their position at sea. Meanwhile, the famous structure is in the custody of the National Park Service following its transfer November 9, 1936, and will continue to serve as a notable landmark for future visitors to the Cape Hatteras National Seashore.

Any story of Cape Hatteras would be incomplete without a mention of the Diamond Shoals



LENS ASSEMBLY

LENS FRAME SUPPORT
AND OPERATING MECHANISMDRIVE GEARS
AND GOVERNOR

Lightship, the most famous of the entire seaboard because it marks that dangerous spot just off the Cape. About 12 miles out from the Banks, the ship is anchored in a stretch of water that has hardly any equal anywhere for the frequency, suddenness and violence of its storms. It is significant to note also that near Cape Hatteras Lighthouse is one of the United States Navy's radio direction finder (radio compass) stations, the most recent development by which a ship at sea may determine its position with accuracy.

Altogether, it is gratifying to observe that the Cape Hatteras National Seashore will be provided with excellent examples of four important steps in the history of coastwise navigational aids: (1) the 69-year-old lighthouse where four advancements in the source of light are recorded; (2) the modern lighthouse of skeleton design; (3) the anchored lightship, and (4) the naval radio compass. These features combine to make a valuable educational exhibit of man's progress in the long struggle to protect himself and his ships and cargoes against the mighty powers of the sea.

THREE SERVICE AREAS RENAMED; NATIONAL SYSTEM EXTENDED

New designations for Abraham Lincoln National Park, Kentucky, Fort McHenry National Park, Maryland, and Chalmette National Battlefield Site, Louisiana, were authorized by bills signed this month by President Roosevelt. The 110-acre Lincoln birthplace area is to be known as Abraham Lincoln National Historical Park, and the famous Baltimore stronghold whose defense inspired Francis Scott Key to write The Star Spangled Banner becomes a national monument bearing a descriptive name unlike that of any other in the system: Fort McHenry National Monument and Historic Shrine. The two changes had been recommended by the Department of the Interior because both areas are primarily historical in character and do not embody the natural features associated with the national park classification.

Establishment of the former Chalmette National Battlefield Site as Chalmette National Historical Park raises to four the total of units in that category. It is the site of the battle of New Orleans, fought on January 8, 1815, the most important land encounter of the War of 1812. Andrew Jackson defeated the British there 15 days after a treaty of peace had been signed at Ghent, Belgium. The Louisiana Legislature appropriated \$300,000 last year for acquisition of lands along Jackson's line of defense so that it might be donated to the federal government as an enlargement of the Chalmette area to proportions commensurate with its national historical importance.

The Service also issued this month a report describing outstanding developments in the national park and monument system during the last fiscal year. More than 1,600,000 acres were added to scenic, recreational and historical areas, bringing the aggregate to 20,817,228. The total number of Service units was increased from 144 to 154.

NEWS OF MAMMOTH CAVE IN 1817

A report from the Bath (England) Literary and Philosophical Society, published in The (London) Literary Gazette, Vol. I, No. 12, April 12, 1817, p. 178, contains details of discoveries of 122 years ago, which, in the light of newer finds in Mammoth Cave National Park, arrest the attention of all who have visited or read about those labyrinthine caves. The recently exhumed article, headed "Natural Cave in Kentucky," reads:

"Monday, February 17, Mr. Cranch communicated to the Society the substance of some papers transmitted to him from Dorchester, near Boston in New England, relative to a mummy discovered in an immense subterranean cavern in the State of Kentucky.

"The mummy is that of a stout woman nearly six feet in height, though the whole material is so intensely dry as to weigh but twenty pounds. It was found in the cavern, at the distance of three miles from its entrance. The figure appeared seated in a sort of rude sarcophagus, composed of fine limestone slabs; the fifth stone serving as a cover or entablature to the rest, exactly similar to the ancient cromlechs still extant in various places of the British islands. The knees had been brought close up to the body; the hands were clasped upon the breast; the head, covered with something like a coronet, was erect; and the whole figure was muffled up and covered with a number of garments made of wild hemp and willow bark. Several bags containing beads, trinkets, and various handicraft implements, were lying by the body, with a sort of work-basket, a curious musical instrument, and a fan made of feathers à la Vandyke.

"The entrance of the cavern is 40 feet high by 30 feet wide, and for some years past saltpetre has been made, and oxen worked, as far as two miles within it. A Mr. Ward has recently explored this wonderful cavern to the extent of ten miles. He says that after proceeding some miles, they ascended a vertical chimney-like passage, and climbing up from one stone to another about 40 feet, they entered at midnight a chamber 18000 feet [sic] in circumference, and 150 feet high in the centre! From this chamber they proceeded about a mile further, and how much further they might have gone they knew not. In another chamber which they traversed, they were presented with a scene to which there is at present, perhaps, no parallel in natural history -- a single arch of solid rock 100 feet high projecting over an area of not less than eight acres! From the observations which they made, they fully satisfied themselves of this further astonishing fact, -- the Green River, a mighty stream navigable for several hundred miles, must necessarily have passed over their heads in three different branches of the cavern.

"A great many discoveries, it is added in the communication to Mr. Cranch, have been made in Kentucky, which indicate the existence, at some remote period, of a state of society, arts, and social habits, far more advanced than any of the aboriginal tribes hitherto known have exhibited."

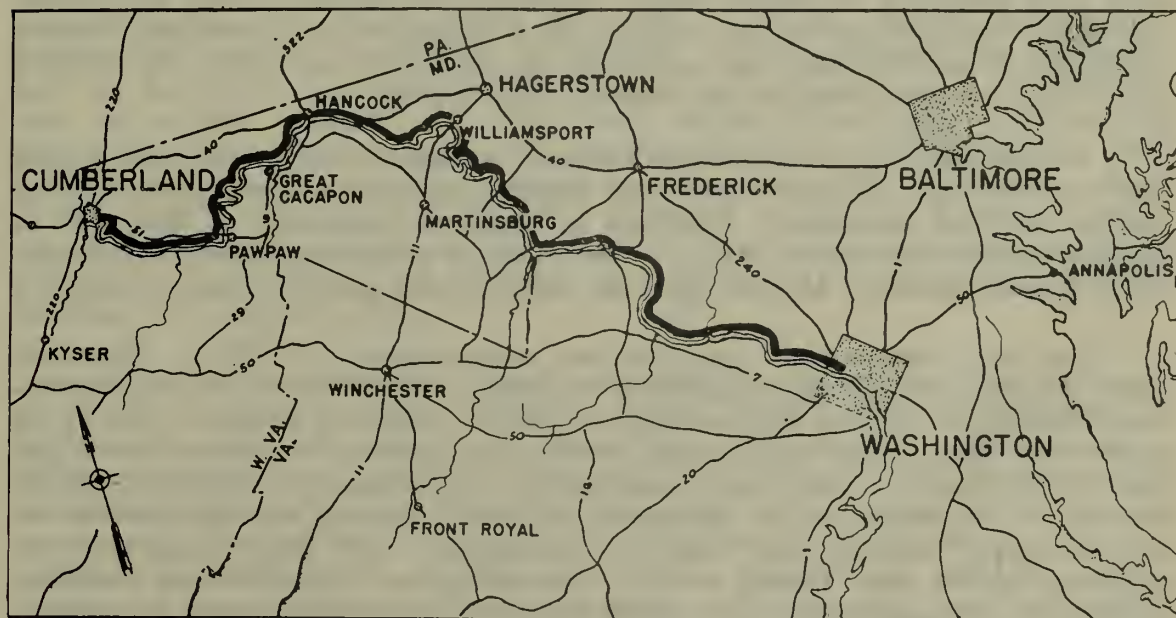
A NEW DAY FOR FISHERMEN ON THE C. & O. CANAL

By Edwin L. Green, Jr.,
Wildlife Division,
Washington

The famous old Chesapeake and Ohio Canal that runs from Washington, D. C., to Cumberland, Maryland, may be of greater service as a recreational area than it ever was for the transport of freight and passengers.

Boating, canoeing and hiking in summer, ice-skating when winter conditions permit -- and good fishing in season -- all these outdoor leisure time activities will beckon to visitors as a result of the restoration and development program now being carried forward by the National Park Service along sections of the historic waterway where, for nearly 100 years, patient mules plodded the picturesque Maryland tow-paths in the van of quaint craft of commerce and pleasure.

Commercial possibilities of the canal appeared limitless when it first was conceived by George Washington, who realized the necessity for trade connections between the progressive settlements of the Potomac Valley and the resources of the Ohio country. As the Erie contributed so substantially to the growth of New York City, so might the Chesapeake and Ohio have built Washington, Alexandria and other cities into centers of industry and distribution. The C. & O. never attained its goal, however, for soon after the canal was begun, in 1828, the Baltimore and Ohio Railroad was completed and developed as a main traffic artery to the Ohio Valley. The waterway was not extended beyond Cumberland, which it reached



The Heavy Black Line Shows the Route of the Canal along the Maryland Side of the Potomac from Cumberland to the District of Columbia

in 1850, and the Chesapeake and Ohio Canal Company, after flourishing during the 1870's did not maintain itself following 1924 when a flood destroyed a part of the dykes.

Recreational planners recognized later that the canal embodied many features suited for the establishment of a unique recreational area at the doorstep of the nation's capital. Accordingly, as the C. & O. Canal Recreational Parkway, the area is now being developed by the Service. Fishing, which always has been important in the Potomac Valley, will be of major interest on the canal since water will cover most of the property. In the early 1850's there was a marked decrease in the Potomac in the number of fall fish, a species of chub. There was much discussion of the reason for it and Americans of that period, like those of today, disliked to admit that they had been taking too many fish. Someone decided that the small-mouth bass, a native of the Ohio and Mississippi drainage basin, would be an excellent fish for the Potomac. Many river people expressed the fear that the small-mouth would displace the fall fish. That is just what happened. Bass from the Monongahela and Ohio were carried over the B. & O. Railroad and dumped into the river near Cumberland. By 1870 they had established themselves while the fall fish became scarcer. It was in those days that the tavern at Great Falls was an important fishermen's headquarters.

During the time that the canal was operated commercially, it was customary to drain the water each fall at the beginning of cold weather. Great pools were left in the low places, trapping the fish. In earlier days the people of the surrounding country flocked to the pools armed with pitch-forks, sticks, spears, and all manner of nets. Large quantities of fish were taken for local consumption, but even with this attack many fish remained although these usually suffocated under the winter ice which cut off the oxygen supply. At a later period the United States Bureau of Fisheries sent out crews of men each year to seine the trapped fish from the pools and return them to the river.

The decrease of fish in the Potomac became so acute as time passed that by 1880 the United States Fish Commission carried on experiments in the use of fish ladders. A series of them was arranged to aid shad in their migration at Great Falls. The remains of such a ladder are still to be found anchored in the tow-path dyke of the canal at that point.

The small-mouth bass typifies the requirements of fish. Spawning comes in the spring when the water reaches a temperature of 65 degrees. Just before the actual egg-laying the male builds a nest of gravel in water less than five feet deep. Turbidity affects the amount of light that will reach the nest and consequently determines its depth below the surface. If there is not enough light the fish seek shallower water or do not spawn; gravel also must be available. The male completes the nest and drives the female to it, attacking any intruder and removing all trash. The young fish hatch and hover around the nest at first. Later they stray to nearby cover, for after the hatching the parent turns cannibal.

The canal was built originally to a width of 60 feet, a bottom

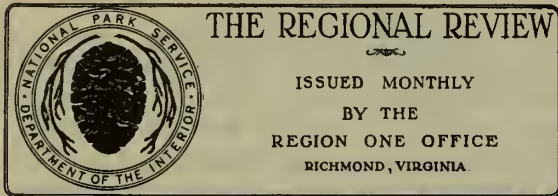
width of 40 feet, and a depth of 6 feet. This leaves no shallow water. Fortunately, it was easier and cheaper for the builders to allow the canal to flood adjoining lands. These shallow areas are few in number but more littoral space is to be provided so that there will be a large production of semi-microscopic animals and plants that supply food for the forage minnows which, in turn, are the main food of the sport fish. The problem of restoring fish and producing a reasonable amount of sport fishing is complicated by variable conditions that, in many cases, are beyond immediate control. The liquid medium in which fish live demands that they be specialized to exist. The water must carry sufficient oxygen, an element easily eliminated by pollution. Fish cannot accommodate themselves to sudden changes in temperature, or the amounts of dissolved air gases, or acid and alkaline conditions. Water distributes and transports poisons more thoroughly than does air so that, in many cases, only minute doses are lethal to fish. Mud is highly detrimental in that it decreases the oxygen supply, reduces the transparency of the water, and suffocates the eggs and vegetation. Altogether, when biologists predict for fish they remember that they are dealing with life as affected by numerous conditions. As a basis for fish management policies a research program is under way. It includes a study of the growth rates of fish existing in parts of the canal that now contain water, examinations of the types of food consumed, and chemical analyses of the water. The Bureau of Fisheries is cooperating with the Service in these endeavors.

NUTSHELL FACTS

ON THE C. & O. CANAL

Reputedly favored by George Washington as early as 1774, the Chesapeake and Ohio Canal was incorporated by the Virginia Assembly in 1823 and approved by the state of Maryland and the United States government. Construction was begun in 1828, traffic started to flow in 1830, boats reached Cumberland by 1850, the peak of usefulness was recorded in the 1870-1880 decade, and commercial operation ceased in 1924 ---after 94 years---when floods inflicted serious damage to portions of the costly dyke system. The 186-mile waterway, designed originally to pierce the Alleghenies and bring the Ohio Valley nearer to the Atlantic seaboard, reaches from the Potomac tidewater to Cumberland (following the Maryland bank of the river), traverses a tunnel, several aqueducts and numerous locks, and gains an elevation of more than 600 feet. It was purchased by the federal government for \$2,000,000. Development operations now are concentrated on the Georgetown-Seneca section.

It is hoped that the canal restoration, when complete, will decrease the fishing on many of the streams within driving distance of Washington. The past use of these has been so heavy that even with constant stocking it is virtually impossible to catch a fish at the end of the season unless it has just been released. In fact, fishing in the vicinity of the metropolitan areas has degenerated, in many cases, to catching today the fish stocked last night. There is a physical limit, of course, to the number of fish the canal will support, but if conditions are ideal the maximum number will be maintained and the historic artery, once heavily traveled by boat and barge, will perform a new service by providing a recreational pursuit long treasured by man.



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WANTED: A BOOK

The Review notes elsewhere (see page 30) Conservation's abstract of an article describing the creation and development of a system of national parks in the Belgian Congo. It constitutes the most recent addition to the growing but still woefully inadequate sum of information concerning the progress which has been made throughout the world in the establishment and protection of natural reserves and historic sites.

The contribution, although modest, is welcomed by all those in the Service who have an interest in keeping abreast of the plodding but determined forward steps achieved in the field of international conservation during these parlous years of world preoccupation with undeclared wars and rumors of wars to come. The addition is but a thin slice, however, of the somewhat formidable loaf which is needed with increasing urgency for the documentary larder of the national park movement.

There does not exist even an up-to-date skeletal directory of the world's preserves; certainly there is no comprehensive work that assembles authoritative materials relating to their geologic, biologic, scenic and historic features, to the origins of their sponsorship, to the methods by which they were established, and to the directive machinery by which they are maintained as national trusts and safeguarded against destruction or exploitation.

Preparation of such a volume is a task to affright the faint-hearted. An almost endless round-the-world correspondence, tedious compiling, and patient triple checking are among the onerous requisites which appear to be sufficiently forbidding to discourage part-time, left-handed study. Yet the labor, once completed, would be a solid keystone contribution which well might afford support for many complementary studies. The subject, if treated exhaustively, would exceed by far the scope of a single doctoral dissertation or of a one- or two-year fellowship, but either or both of those would appear to offer a means of implementing the endeavor by providing a basic outline. Altogether, the task should be inviting to some fearless researcher favored with ample leisure, tireless eyes and strong constitution.

THANKS FROM SCOTLAND

A gratifying letter was received by the Service this month from R.J. Erskine Orr, Managing Editor of The Greenock (Scotland) Telegraph, who expressed his admiration for America's accomplishments in historical conservation. "My closest contact with it was at Richmond, Va.," he wrote. "We were much impressed with the care and thoroughness with which the work of restoring the battlefields is being carried out, and the interest which is added to it by creating a museum on the very spot. . . . Mr. [Floyd B.] Taylor took us to Jamestown, Williamsburg and Yorktown, all of which were very striking to us in their combination of clear and accurate historical lay-out with the dignity which ought to be preserved. . . ."

The first of a series of American articles which Mr. Orr is writing in his newspaper also commends the Service and urges Britons to see this country's shrines.--H.R.A.

MILITIA HAT OF 1812 PRESERVED AT MORRISTOWN

A specially designed hat worn by an American militiaman during the War of 1812 is being displayed among a collection of military headdresses in the museum of Morristown National Historical Park, New Jersey. It belonged to a soldier of a local company known as the Morris Rangers and was presented to the park in 1933 by the Washington Association of New Jersey. A so-called beaver, the hat is eight and one-half inches high, belled at the top, and has a straight stiff brim two inches wide. Attached by a leather strap buckled at the back is a shaped plate of tin painted blue and having a red border. Inscribed upon it with gold paint are the words "Morris Rangers," together with an eagle and 15 stars.



Although the hat is somewhat unsoldierly in appearance when judged by modern military standards, it was issued with professional pride by its maker, Samuel Eaton, a well known manufacturer of New York, who warranted it to be water-proof. Pasted inside the crown was Eaton's silk label, printed from an engraved plate, which showed the American eagle on a solid foundation, a female figure of Justice sitting nearby and holding a balance, and a full-rigged ship riding on a body of water in the background. The plate is signed by Rollinson, an English engraver who came to America in 1789 and, aside from commercial orders, made plates of George Washington in 1791 and Alexander Hamilton in 1804.

The Morris Rangers were one of three uniformed companies of militia in Morris County at the outbreak of the second war with Great Britain. The 64 men of the unit wore hats like that pictured above and it is surmised that they were clad in a uniform consisting of a blue single-breasted, short-waisted coat with tails, a high collar, tight white breeches with "spatter-dashers," or gaiters, and cross belts of white webbing supporting a cartridge box and bayonet. They were armed with flintlock muskets, possibly the contract model of 1810.

The Rangers, with Captain Carter's Riflemen at Bottle Hill and Captain Brittin's Fusileers at Chatham, formed a part of the Third Regiment of Infantry, New Jersey Detailed Militia, which saw service at Paulus Hook in 1814.

The collection of military hats in the museum of the National Historical Park includes also a number of models worn during the Revolutionary War.

IF I WERE A TEMPORARY RANGER---

While pointing out that a good park ranger cannot be made by regulations alone, Superintendent Elbert Cox, of Colonial National Historical Park, has listed for the Yorktown staff some suggestions designed to aid seasonal employees in the discharge of their responsibilities. The hints are headed: If I Were a Temporary Ranger---

I would always appear on duty in uniform.

I would keep my uniform as neat and clean as my own person.

I would make a point of compliance with regulations so that not even a visiting Service man could find fault with my uniform -- collar ornaments carefully spaced, badge on pocket, not on flap, trousers pressed or at least clean, clean tie, shoes shined, sleeves down, not rolled.

I would go out of my way to be courteous to visitors by answering all inquiries in a genial but straightforward manner, by silence when, obviously, remarks by me are not desired, by volunteering information to a visitor obviously in search of information but hesitant in asking.

I would study on duty or on my own time to learn the essential facts associated with sites, events and persons commemorated in the park.

I would keep the greater part of this information "on reserve", gauging the length of my remarks by the response of my listener.

I would acquaint myself with the physical features of the park--- roads, building, streams, boundaries -- so that I could point them out on a map.

I would learn about the Department of the Interior, the National Park Service, the other national parks, and the establishment of the park here.

I would consider myself, when assigned to duty at a particular station, host to all visitors and a representative of the Service.

I would not greet a visitor or answer inquiries while seated in a chair or reclining against a post; I would not greet a visitor, answer inquiries, or direct traffic while smoking, chewing gum, or with a toothpick in my mouth.

I would not converse with a visitor from behind colored glasses except when the glare of the sun made them necessary.

I would maintain so great an interest in my job that I would not be driven to reading while on duty from true story pulp magazines.

I would learn all the regulations in effect at the park and the extent of my responsibility in enforcing them.

I would determine what is required for a satisfactory rating at the end of my summer's employment and do my best to make that rating "excellent".

I would have the personal satisfaction of knowing that I had done a good job, that I would be recommended for reappointment next summer, and, if I ever had the good fortune to be considered for a permanent position in the Service, that my record as a temporary ranger would be the first material factor to recommend me for such a position.

I would conduct myself on the job and off duty as if I expected to do business and reside permanently in the community.

THANKSGIVING DAY IN SUMMER---And The Glorious Fourth in December

By William P. Brandon,
Acting Superintendent,
Guilford Courthouse National Military Park,
Greensboro, North Carolina.

Of all the holiday seasons and festival days celebrated on a national, state, or local scale in the United States, the most typically American, and the most beloved with the possible exception of Christmas, are Thanksgiving and the Fourth of July. Both are rooted deeply in the nation's history and each has its traditional type of celebration. Each has its traditional spirit, as on the one occasion the nation is called upon to render thanks for the blessings which have been vouchsafed to it, while on the other there occurs a surge of patriotic feeling that wells up from the hearts of all the people.

There is interest in what appears to be the earliest recognition of Thanksgiving on a national scope, and it is probable that it will be somewhat startling to a majority to discover that the earliest known celebration of the Fourth was, by official action, in the nature of a Thanksgiving Day. The origin of Thanksgiving at Plymouth is one of the most familiar stories of American history. Possibly less well known, however, is what may be its first recognition on a national as distinguished from a local scale.

In October 1783 the Congress of the Confederation set apart a day of Thanksgiving for the end of the Revolution. In a circular letter to the governors of the various states, the President of the Congress, Elias Boudinot, under date of October 22,¹ transmitted news of the action of the Congress in a proclamation reading as follows:

Whereas, it hath pleased the Supreme Ruler of all human events to dispose the hearts of the late belligerent powers to put a stop to the effusion of human blood by proclaiming a cessation of all hostilities by Sea and Land and these United States are now happily rescued from the dangers and calamities to which they have been so long exposed, but their freedom, Sovereignty and Independence ultimately acknowledged. And whereas in the progress of a contest on which the most essential rights of human nature depend, the interposition of divine providence in our favor hath been most abundantly and most graciously manifested and the Citizens of these United States have every reason for praise and Gratitude to the God of their Salvation. Impressed therefore with an exalted sense of the blessings by which we are surrounded and of our entire dependence on that Almighty Being from whose goodness and bounty they are derived, the United States in Congress assembled do recommend it to the several States to set apart the second Thursday in December next as a

(1) The State Records of North Carolina (W. B. Clark, ed.), XVI, 906.

Day of public Thanksgiving that all the people may then assemble to celebrate with grateful hearts, and united voices, the praises of their Supreme and all Bountiful Benefactor for his numberless favors and mercies, that he has been pleased to conduct us in safety through all the perils and vicissitudes of the War; that he has given us unanimity and resolution to adhere to our just rights; that he hath raised up a powerful ally to assist us in supporting them, and hath so far crowned our United efforts with success, that in the course of the present Year hostilities have ceased, and we are left in the undisputed possession of our liberties and Independence and of the fruits of our own land,² and in the free participation of the Treasures of the Sea; . . .

Possibly even more interesting, however, is what appears to be the original celebration of the Fourth of July, and its identification with the spirit of that other great American holiday, Thanksgiving. This also occurred in 1783, and was in recognition of the same event which occasioned the setting apart of a day of Thanksgiving by the Congress. On Friday, May 16, 1783, the House of Commons of the General Assembly of North Carolina considered, passed, and sent to the Senate the following resolution:

Resolved, that the fourth Day of July be and is hereby appointed a day of General Thanksgiving and praise to Almighty God for the gracious Interposition of Divine Providence in behalf of this nation; that it hath pleased Him to deliver us from the calamities of War and crown our wishes with the blessings of Peace; and that his excellency the Governor notify the same by Proclamation.³

In the Senate the Resolution was read and concurred in on the same day,⁴ and a few weeks later Governor Alexander Martin issued his proclamation in conformity therewith as follows:

Whereas the honorable the General Assembly have by a Resolution of both Houses recommended to me to appoint Friday the Fourth of July next being the anniversary of the declaration of American Independence, as a Day of Solemn Thanksgiving to Almighty God, for the many most gracious interpositions of his providence manifested in a great & signal manner in behalf of these United States, during their conflict with one of the first powers of Europe: -For rescuing them in the Day of Distress from Tyranny & Oppression, and supporting them with the aid of great & powerful allies:-For conducting them gloriously and triumphantly through a just and necessary War, and putting an end to the calamities thereof by the restoration of Peace, and after humbling the pride of our enemies & compelling them to acknowledge the Sovereignty and Independence of the American Empire and relinquish all right & claim to the same:-For raising up a distressed and Injured People to rank among independent Nations and the sovereign powers of the world. And for all other Divine favors bestowed on the Inhabitants of the United States & this in particular.

(2) *Ibid.*, XVI, 906-907.

(3) *Ibid.*, XIX, 358, "Commons Journal."

(4) *Ibid.*, 223, "Senate Journal."

In conformity to the pious intentions of the Legislators I have thought proper to issue this my Proclamation directing that the said 4th Day of July next be observed as above, hereby strictly commanding and enjoining all Good Citizens of this State to set apart the said Day from bodily labour, and employ the same in devout and religious exercises. And I do require all Ministers of the Gospel of every Denomination to convene their congregations at the same time and deliver to them Discourses suitable to the important Occasion, recommending in general the Practices of Virtue & true Religion, as the great foundation of private Blessings as well as National happiness and Prosperity.⁵

It does not appear how generally the celebration of this Fourth took place throughout North Carolina, but one distinct group of the population did follow literally the instructions contained in the proclamation. On June 30 one of the ruling boards of this group, the Moravians, noted in its minutes the following: "By proclamation of the Governor the Fourth of July is to be celebrated as a Day of Thanksgiving for Peace. All our congregations shall be instructed to observe the Day."⁶ The Diary of the largest of the Moravian Congregations, that at Salem, describes the celebration that took place there in these words:

According to the order of the government of this State we celebrated a day of thanksgiving for the restoration of peace. The congregation was awakened by the trombonists. At the beginning of the preaching service the Te Deum was sung, with trombone accompaniment. The Watch-Word for January 20th, the day on which the Peace Preliminaries were signed, was: The God of Jacob is our refuge, taken from the 46th Psalm, which gave opportunity to use this Psalm as the text for the Sermon, which was preached by Mr. Benzien. The service closed with the singing of: Glory to God in the highest. At two o'clock there was a happy lovefeast, during which a Psalm of Joy was sung with thankful hearts. In the evening at eight o'clock the congregation again assembled in the Saal, and the choir sang: Praise be to Thee, who sittest above the cherubim. Then the congregation formed a circle in front of the Gemein Haus, and from there passed in procession through the main street of the town, with music and antiphonal song of two choirs. The street was illuminated. Returning to the Gemein Haus the congregation again formed a circle, and with the blessing of the Lord was dismissed to rest. Hearts were filled with the peace of God, evident during the entire day and especially during the procession, and all around was silence, even the wind being still.⁷

It thus appears that in the earliest days of recognized independence the two most completely American holidays were identified closely in their basic ideas, and that what is probably the earliest celebration of the Fourth of July was of the nature of Thanksgiving.

(5) Records of the Moravians in North Carolina (A. L. Fries, ed., Publications of the North Carolina Historical Commission, 4 vols., Raleigh, 1922-30), IV, 1919-1920. The proclamation does not appear in the State Records but the copy sent to the Moravians was preserved in the church archives.

(6) Records of the Moravians in North Carolina, IV, 1853, "Minutes of the Aeltesten Conferenz."

(7) Ibid., IV, 1853, "Salem Diary."

HOW A MONUMENT DIFFERS FROM A PARK

The difference between a national park and a national monument is explained in a manner comprehensible to all in a letter written by Col. John R. White, as Acting Associate Director, in answer to an inquiry received from a Californian. The letter says in part:

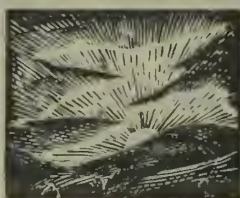
National Monuments were first established by proclamation following passage of the Act for the Preservation of American Antiquities, approved June 8, 1906. The purpose of the Act was to provide the President with authority to declare as national monuments historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon lands owned or controlled by the Federal Government. The Act requires that national monuments shall be confined to the smallest area compatible with the proper care and management of the objects to be protected. Many such areas, obviously so fine that they belong to the Nation as a whole, were then in danger of falling into private hands, for private exploitation. In order to save them authority for quick action was necessary in each case, and Congress decreed that the President should have such authority.

National parks are established only by act of Congress. A national park is an area so spacious that it includes all of the supplemental features directly related to, or essentially a part of, the dominant feature. For instance, at Sequoia National Park the dominant feature is the magnificent forest of Big Trees. But the park area is large enough to include a suitable amount of their setting, or habitat, so that we have there a complete natural unity, including not only the trees, but also the scenery, geology, wildlife and other elements associated with them.

A national monument, on the other hand, is an area notable for, and largely restricted to, some one feature. At Devils Tower National Monument, for instance, the core of an ancient volcano is found. It is the only feature there of particular national importance. No large portion of its setting is necessary as a part of the exhibit, or for its care and management.

In short then, we may say that the simplest distinction between a national park and a national monument is that the former is all of the extensive natural unity of the important dominant feature, while the latter is restricted to the dominant feature itself.

All national parks and national monuments are administered alike as to general laws, rules and regulations. . .



C.C.C.PROGRESS REPORT DESCRIBES CORPS' WORK OF SIX YEARS

A complete statistical record of all work accomplished by the 2,500,000 young men, war veterans, Indians and territorials who have enrolled for varying periods in the Civilian Conservation Corps is contained in a special report prepared by Director Robert Fechner. Figures are complete to last April 1.

The report describes the 150 types of work undertaken, explains the procedure through which the Department of the Interior, the Department of Agriculture and other federal agencies have cooperated in supervising activities of the enrollees, and points out how the national aims in the fields of conservation and public recreation have been advanced by many years through application of the Corps' tremendous man-power.

"I am proud of the fine performance record which . . . [the enrollees] have made," said Mr. Fechner. "An overwhelming majority of the men who are working and who have worked in the CCC camps were inexperienced in any kind of work when first enrolled. These men had to be taught how to work. They had to be trained to do the wide variety of conservation tasks that make up a part of the CCC's daily work program. The speed with which these green youngsters have learned . . . was a source of gratification to every person connected in any way with the CCC program. As a result the CCC has been able to turn out a tremendous amount of work. It has also graduated hundreds of thousands of youngsters who today are economically more secure, thanks in large part to lessons learned in the disciplined atmosphere of the nation-wide chain of CCC camps which have been operating since the early summer of 1933. . . . Enrollees, over the last six years and three months, allocated to dependents out of their basic cash allowances of \$30 a month, an aggregate of more than \$500,000,000."



CCC-BUILT PUBLIC CAMP GROUND, GREAT SMOKY MOUNTAINS NATIONAL PARK

PUBLICATIONS AND REPORTS

NATIONAL PARKS OF BELGIAN CONGO DESCRIBED

Establishment and growth of a national park system in the Belgian Congo are recorded in the current issue of Conservation (Vol. V, No. 4, pp. 40-43), which digests the information contained in a Bulletin prepared by the Institute of National Parks of that African colony. Students of international conservation will find the article a welcome addition to the meagre materials relating to the world's natural and historical reserves.

The article points out that King Leopold II had created special game preserves in the Congo Free State as early as 1889 to protect elephants against ruthless slaughter, but it was not until 1925 that Albert National Park was set aside as the first unit of a system that now includes three large areas. A decree of 1929 guaranteed the independent character of the Institute of National Parks of the Belgian Congo, establishing it as an autonomous organization directed by an administrative commission and a managing committee responsible only to the Minister for the Colonies. Careful studies conducted by the Institute resulted in the addition of two new parks: Kagera, a vast area in Ruanda, created in 1934, and Garamba, on the borders of the Anglo-Egyptian Sudan, set aside in 1938. The youngest of the parks, says the article, ". . . has taken the place of the one-time hunting reserve of Aka-Dungu. It is hoped that this park will be the means of protecting and preserving some groups of white rhinoceros, eland and giraffe. This strict reserve, which covers 1,250,000 acres, has the appearance of a grassy savanna with only gentle undulations."

SERVICE ARTICLES IN MILITARY INSTITUTE JOURNAL

The Journal of the American Military Institute (Vol. III, No. 1, Spring 1939) reproduced two full-length articles and a note by Service employees. Branch Spalding, Superintendent of Fredericksburg and Spotsylvania National Military Park, contributed "Jackson's Fredericksburg Tactics," and Thor Borresen, Junior Research Technician of Colonial National Historical Park, was the author of "The Markings of English Cannon Captured at Yorktown." Alfred F. Hopkins, Museum Curator at Morristown National Historical Park, provided a note, "An Early Colonial Helmet".

In his article, Mr. Spalding posed the question whether the gap in Stonewall Jackson's line on December 13, 1862, might have been a deliberate disposition rather than an oversight. Federal troops penetrated the line but were boxed in and ejected by large reserve forces. "Whether Jackson . . . was simply laying a deadly trap to annihilate Yankees, or was doing both that and consciously experimenting with new defense dispositions which might be practiced in a world war a half-century later on undreamed-of front widths, is an imponderable question," said the writer. "But careful comparison of his formations at Fredericksburg with corps and army masses on the Eastern Front during the World War of-

fers a profitable and interesting investment of time for the modern military student. It may conduce to the opinion that Stonewall Jackson was not only the smartest general officer on the field at Fredericksburg, but he was also ancestor of the modern flexible defense."

TECHNICIAN SEES WOLF PROVE NO. 1 RULE OF PREDATION

Adolph Murie, Wildlife Technician, recently witnessed in Mount McKinley National Park, Alaska, a one-scene drama which illustrated strikingly the vital biological ends which are served by unhampered predation. In a report of field activities, Dr. Murie wrote:

During four successive days, as thrilling a period as I have ever experienced, from 2 to 4 wolves were observed at the forks of the Teklanika River. During this time hundreds of caribou, mainly cows and calves, were moving up the east fork of the Teklanika, then down the east fork, then up the west fork, and over the hills to Sanctuary River, hurrying along like typical Americans. The wolves were apparently there to feed on calves or anything else that came their way. A black wolf was observed running down a calf. The incident, which happened directly before my lookout so that I was afterwards able to measure the distance the wolf ran, the distance the captured calf dropped behind his more fleet contemporaries which were able to follow the cows like little shadows, and other data could all be gathered. The incident illustrated natural selection, the survival of the fittest perfectly. The caribou calves are so speedy that it is not unlikely that very often those a little below average are the ones that drop behind and cannot quite escape the wolf. A grey wolf, which was associating with the black one and two silvery maned cripples, was seen give serious chase after a band of cows and calves, for almost one-half mile. When the wolf reached a slope over which the caribou had fled it was left hopelessly behind and stopped.

LOUISIANA MATERIALS CONTAINED IN PARISH ANNUAL

A brief documented history of Jefferson (New Orleans) Parish, an interesting description of the French-speaking Barataria region, and a detailed account of muskrat trapping are among the articles appearing in the 1939 Jefferson Parish Yearly Review, official publication of the Police Jury, the governing body.

The history of the parish, prepared by the WPA Historical Records Survey, is traced from La Salle, in 1682, to the present day. It describes the social, economic, and political growth of the area. Lyle Saxon, author of Lafitte the Pirate, the basis for the film Buccaneer, contributes "Traditional and Romantic Jefferson," pointing out the interesting tours which await the visitor in Barataria. Meigs O. Frost's "Tropical Trappers' Fur Frontier," illustrated by 24 photographs, tells how Louisianans capture, prepare and ship some 3,000,000 muskrat pelts each season after a stay in temporary cabins along the bayous.

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THE CONTRIBUTORS

DANIEL B. BEARD has carried on wildlife studies in northeastern and southeastern states and completed a faunal survey of the proposed Everglades National Park since he first entered the Service five years ago as a CCC camp foreman in New York. An alumnus ('30) of Syracuse University, he was born in 1906 in Flushing, New York, the son of the famous boys' leader and naturalist. He now is a member of the Washington staff of the Wildlife Division.

EDWIN L. GREEN, JR., a native of South Carolina, graduated from his state university in 1931 and pursued advanced studies at the University of North Carolina and the University of Tennessee. He entered the Service in 1935, had several assignments in biological research in North Carolina state parks, and was transferred later to Washington as a member of the staff of the Wildlife Division.

RALEIGH C. TAYLOR'S name was not included on this page last month when he contributed an article on the Petersburg Crater. He was born at Ansted, West Virginia, and is a graduate ('31) of the University of Virginia. He entered the Service in 1933 and has been enrollee, research assistant, ranger-historian and junior research technician. He now holds the latter position at Petersburg National Military Park.

FRANK E. WHITEHOUSE entered the Service in June, 1934, with an assignment in a CCC camp in Ohio. He was transferred two years later to the regional office engineering staff and has been on duty in Richmond ever since. Born in Buffalo, he was a student at Ohio State University when America entered the World War. He enlisted in the Navy, was selected for special training at Annapolis and won a commission. He later resumed his college study and received an architectural engineering degree in 1922.

Biographical facts concerning WILLIAM P. BRANDON appeared on this page in Vol. II, No. 5.



